FIG. 1

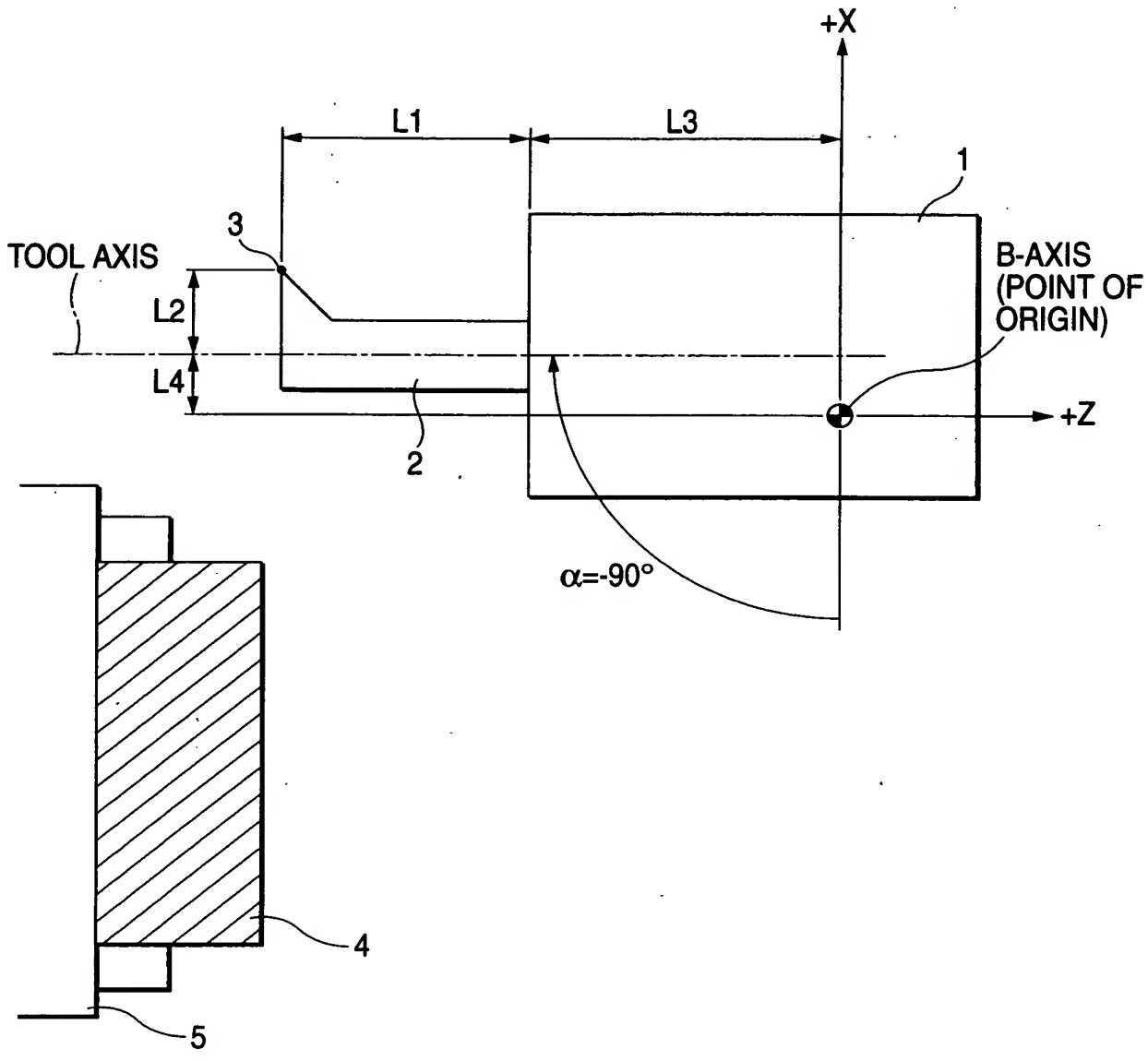

FIG. 2

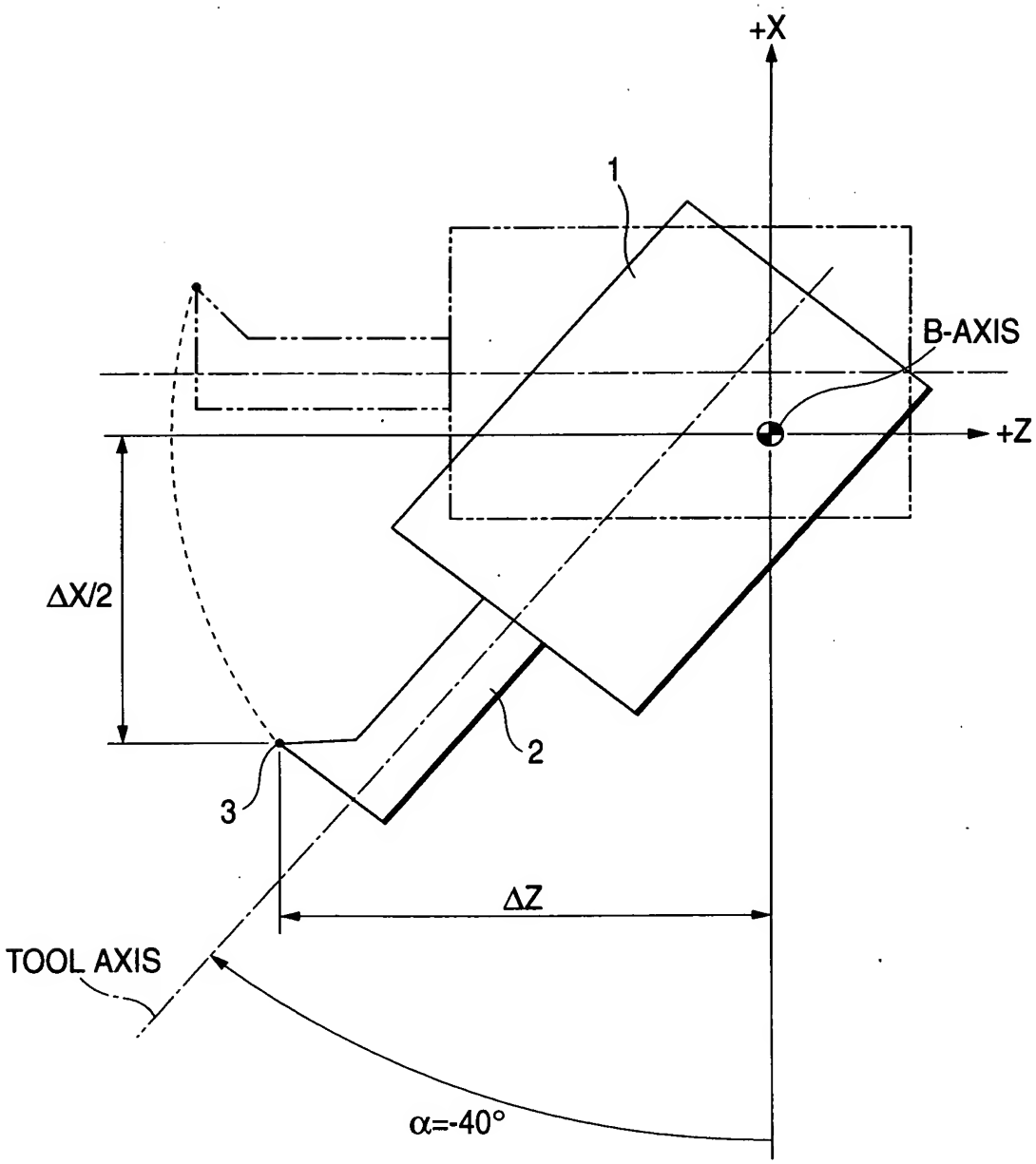

FIG. 3

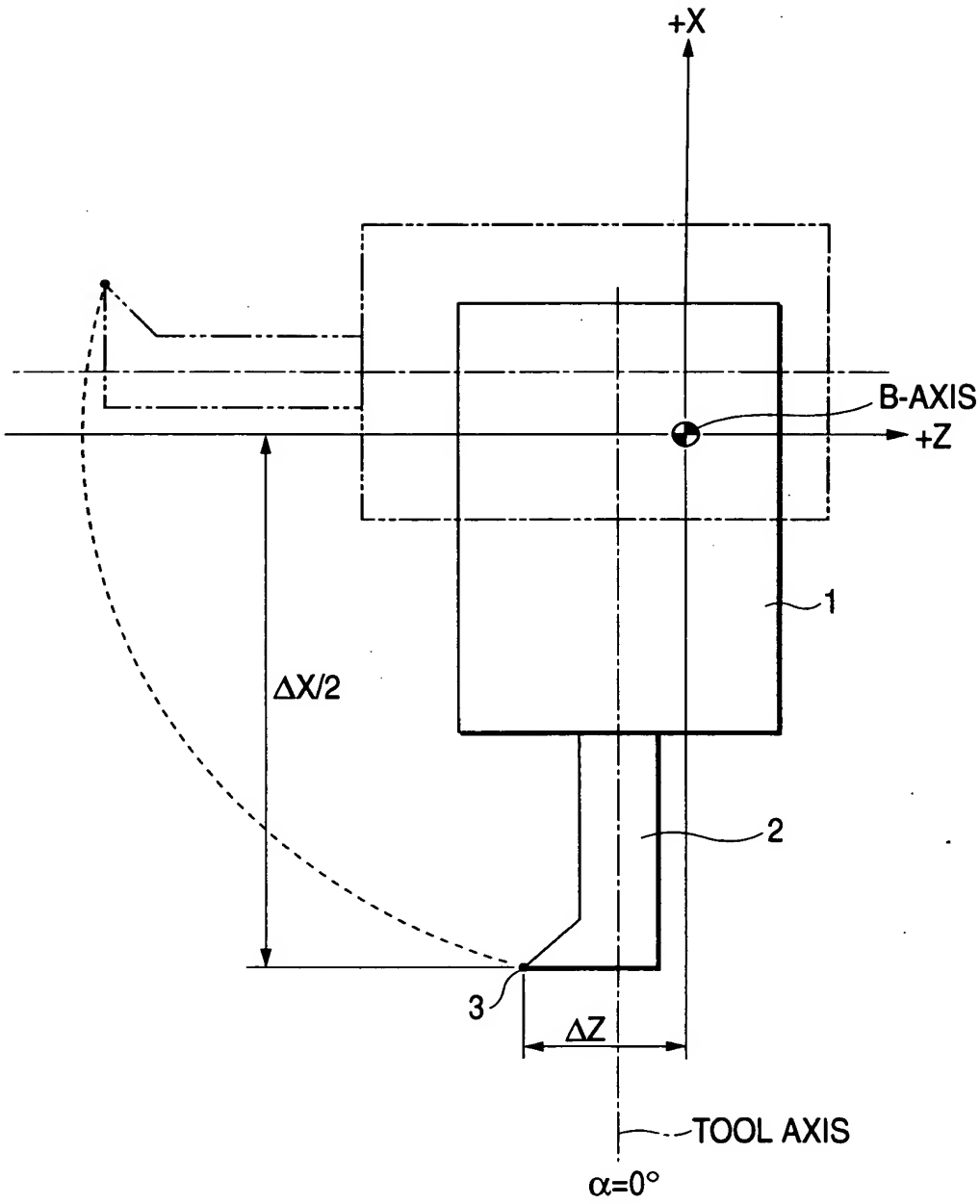

FIG. 4

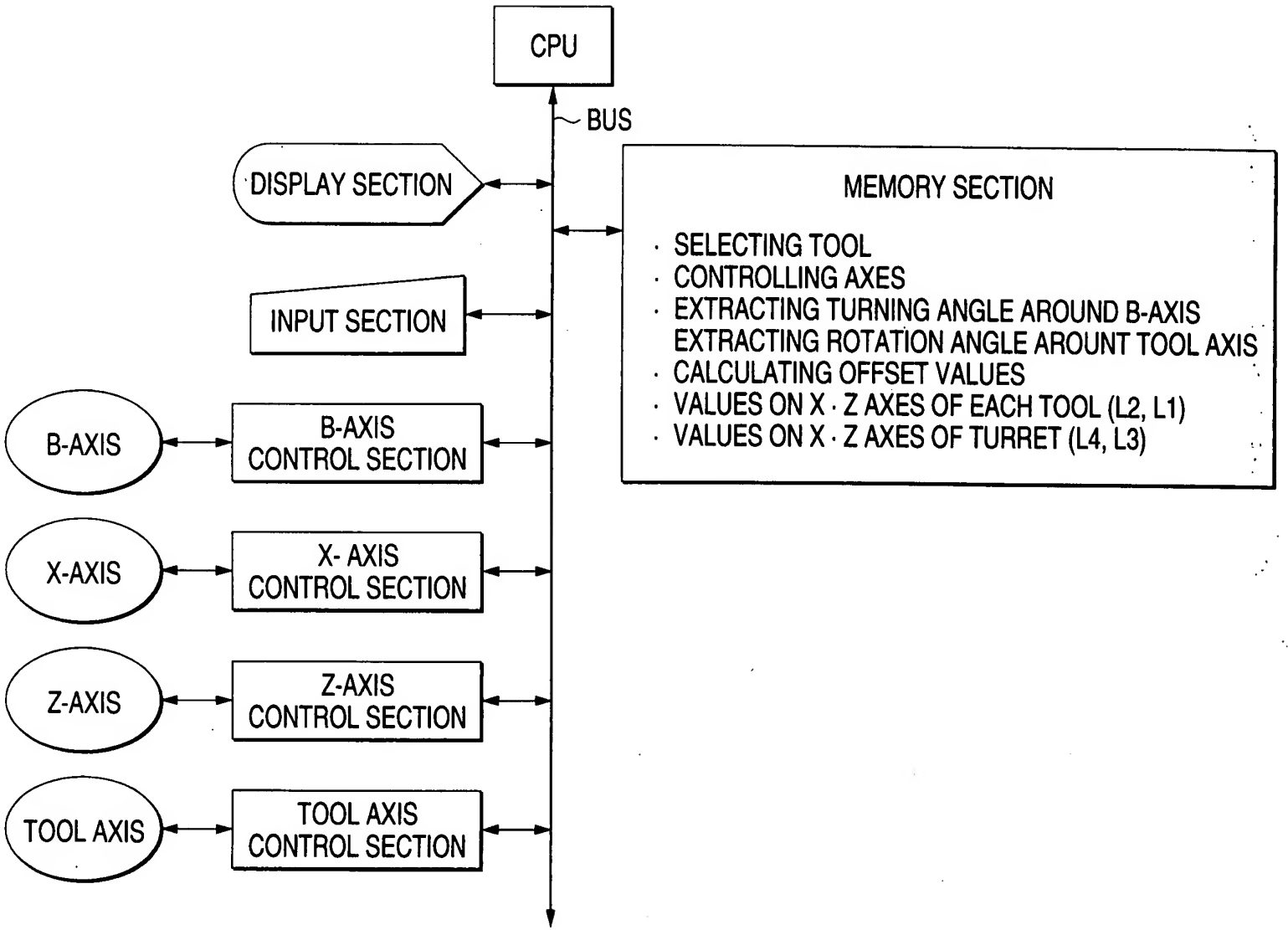
CPU
BUS
DISPLAY SECTION
INPUT SECTION
MEMORY SECTION
· SELECTING TOOL
· CONTROLLING AXES
· EXTRACTING TURNING ANGLE AROUND B-AXIS
EXTRACTING ROTATION ANGLE AROUNT TOOL AXIS
· CALCULATING OFFSET VALUES
· VALUES ON X · Z AXES OF EACH TOOL (L2, L1)
· VALUES ON X · Z AXES OF TURRET (L4, L3)
B-AXIS
B-AXIS CONTROL SECTION
X-AXIS
X- AXIS CONTROL SECTION
Z-AXIS
Z-AXIS CONTROL SECTION
TOOL AXIS
TOOL AXIS CONTROL SECTION

FIG. 5

	TOOL	TURNING ANGLE	OFFSET ON X AXIS (ΔX)	OFFSET ON Z AXIS (ΔZ)		
1	TURNING	-90.0° (INITIAL POSITION)	-22.00 (ΔX_0)	400.00 (ΔZ_0)		
2		-40.0°	598.69	265.54		
3	(WEAR COMPENSATION VALUE)		ΔX_t	ΔZ_t		
			-0.09	-0.04		
			-0.24	-0.09		
			-0.29	-0.14		

TURNING	0.0°	800.00	11.00		

FIG. 6

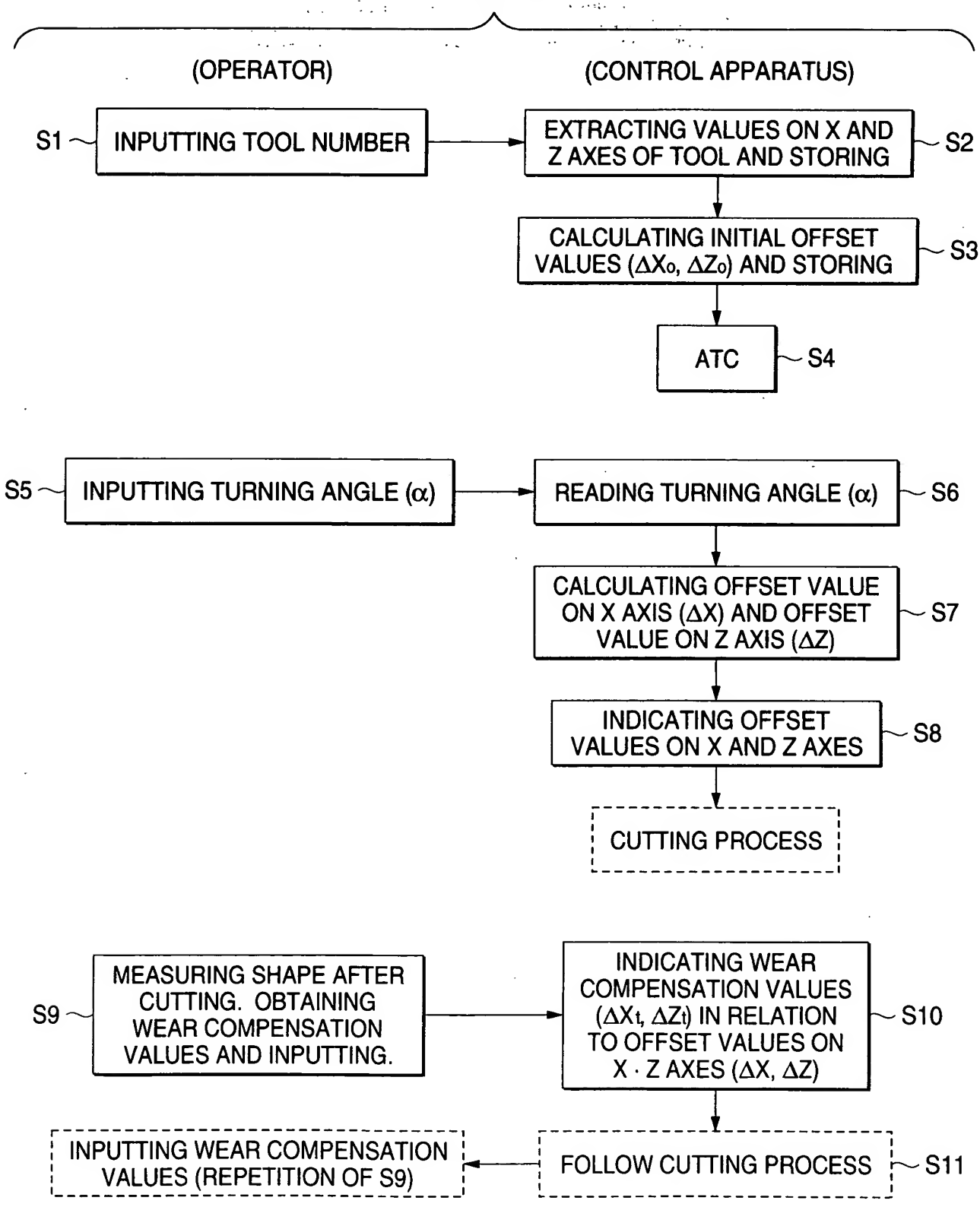
(OPERATOR)
(CONTROL APPARATUS)
S1
INPUTTING TOOL NUMBER
EXTRACTING VALUES ON X AND Z AXES OF TOOL AND STORING
S2
CALCULATING INITIAL OFFSET VALUES (ΔXo, ΔZo) AND STORING
S3
ATC
S4
S5
INPUTTING TURNING ANGLE (α)
READING TURNING ANGLE (α)
S6
CALCULATING OFFSET VALUE ON X AXIS (ΔX) AND OFFSET VALUE ON Z AXIS (ΔZ)
S7
INDICATING OFFSET VALUES ON X AND Z AXES
S8
CUTTING PROCESS
S9
MEASURING SHAPE AFTER CUTTING. OBTAINING WEAR COMPENSATION VALUES AND INPUTTING.
INDICATING WEAR COMPENSATION VALUES (ΔXt, ΔZt) IN RELATION TO OFFSET VALUES ON X · Z AXES (ΔX, ΔZ)
S10
INPUTTING WEAR COMPENSATION VALUES (REPETITION OF S9)
FOLLOW CUTTING PROCESS
S11

FIG. 7

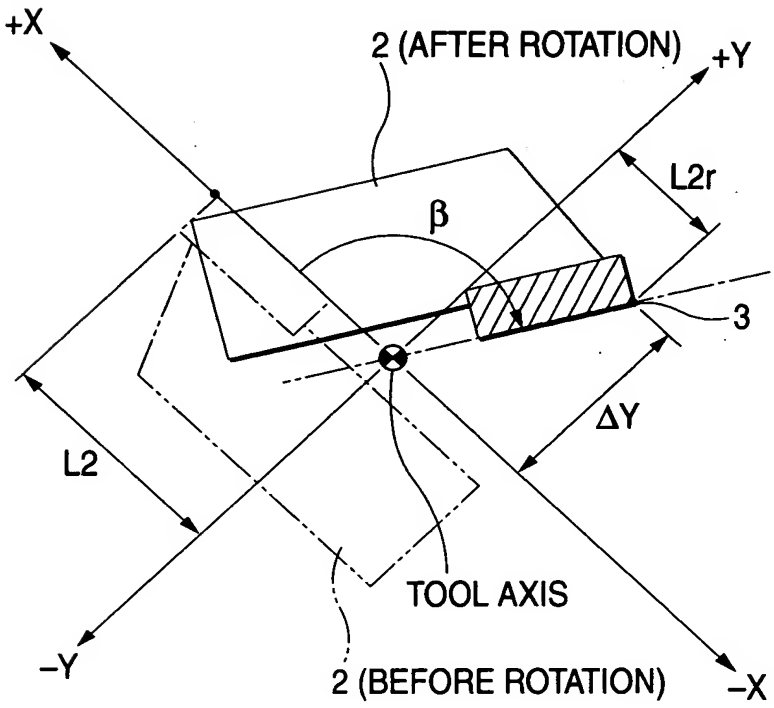
+X
2 (AFTER ROTATION)
+Y
L2r
β
3
ΔY
L2
TOOL AXIS
-Y
2 (BEFORE ROTATION)
-X

FIG. 8

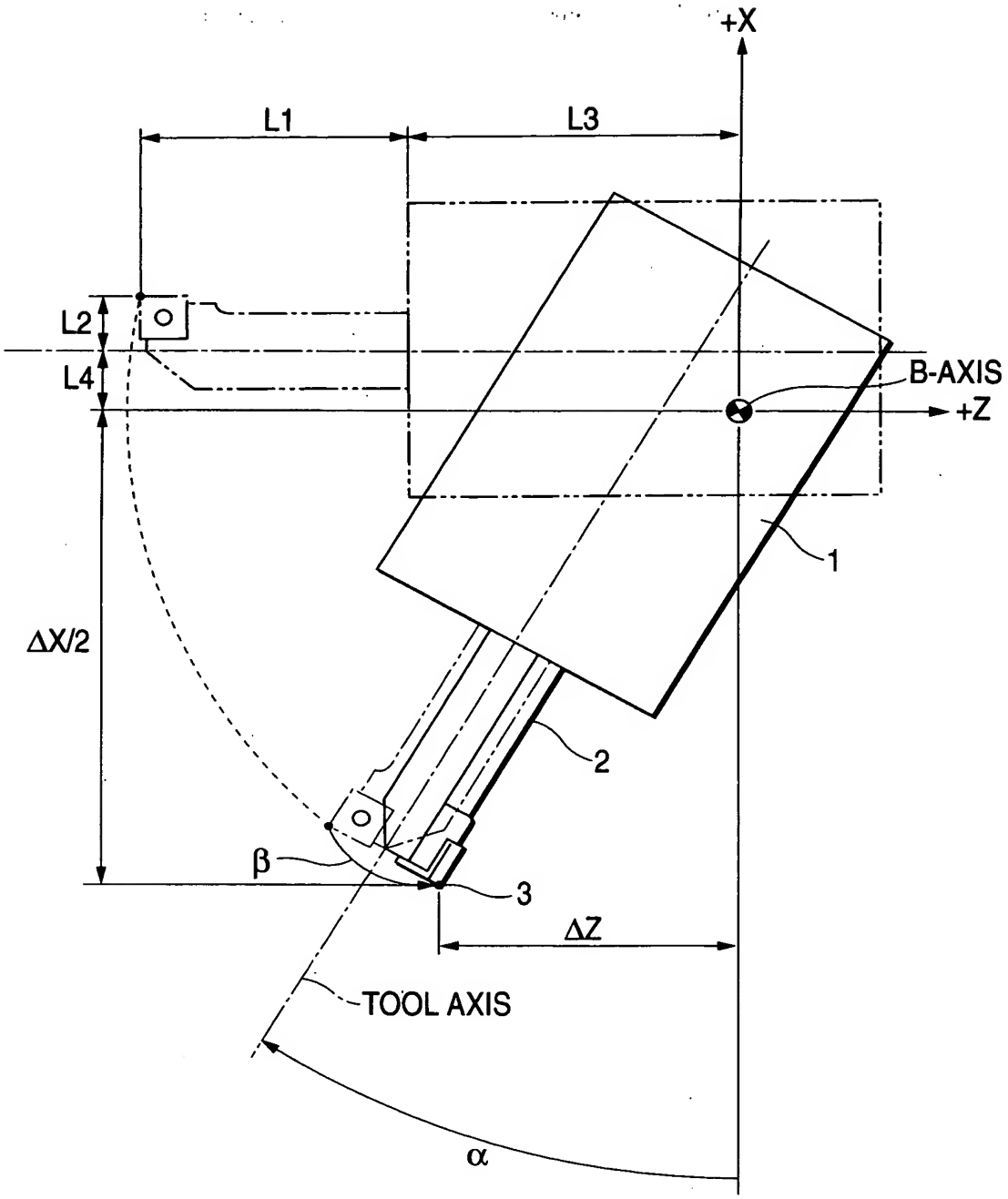

FIG. 9

TOOL	TURNING ANGLE (α)	ROTATION ANGLE (β)	OFFSET ON X AXIS (ΔX)	OFFSET ON Z AXIS (ΔZ)	OFFSET ON Y AXIS (ΔY)
TURNING	-90.0° (INITIAL POSITION)	0.0°	-22.00 (ΔX_o)	400.00 (ΔZ_o)	0.00 (ΔY_o)
	-40.0°	0.0°	598.69	265.54	0.00
	-40.0°	120.0°	617.98 (ΔX_r)	254.05 (ΔZ_r)	-8.66
	(WEAR COMPENSATION VALUE)		ΔX_t	ΔZ_t	ΔY_t
			-0.08 -0.13	-0.05 -0.10	-0.06 -0.10